

## AMENDMENTS IN THE SPECIFICATION

*Please replace the current title with the following rewritten title:*

### **DYNAMIC SELECTION OF MOST EFFICIENT TRANSMISSION MEDIUM AND ROUTE FROM A CLIENT BROWSER**

*Please replace the paragraph beginning on page1, line 4 with the following:*

The present invention is related to the subject matter of the following commonly assigned, co-pending United States Patent Application Serial No. [[      ]] 09/584,068 (Docket No. AUS92000229US1) entitled "Dynamic, Seamless Switching of a Network Session from one Connection Route to Another" filed concurrently herewith.

*Please replace the paragraph beginning on page14, line 1 with the following:*

Referring now to Figure 2, a high-level block diagram of an intranet with multiple server connections for a single client is illustrated in accordance with a preferred embodiment of the present invention. Intranet 200 comprises a plurality of servers that are at different geographical locations. These servers include Chicago servers 203A, New York servers 203B, California servers 203C, and Texas servers 203D. Client browser 201 connects to each server via a different connection medium. Thus, client browser 201 is connected via ethernet 205 to Chicago servers 203A, via Token Ring 209 to New York servers 203B, via an internet Service Provider (ISP) 207 to California servers 203C, and via Satellite 211 to Texas servers 203D. In a preferred embodiment, the ability of a client to connect to different servers using different connecting medium is a major consideration utilized in selecting optimal routes as will be described below. The invention, however also finds applicability in a network in which each server is connected to the client via the same connecting medium. Intranet 200 connects to Internet (not shown) via network Internet connectors 215. Client browser access to the Internet is routed through the Intranet servers 203A-203D, which in effect serve as proxy servers.

*Please replace the paragraph beginning on page15, line 20 with the following:*

Turning now to Figure 3, there is illustrated another network configuration including a client browser coupled to multiple servers. The illustrated network may represent an intranet configuration as in Figure 2 or a stand alone client configuration. The intranet configuration

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shows a client[[,]] that is connects connected to a server of the intranet. The intranet server is then utilized to provide access to Internet servers. In the stand alone client configuration, a client connects directly to a server of the Internet (i.e., without the intranet server). As an Intranet configuration, the elements of Figure 3 are similar to the elements of Figure 2, but client may be connected utilizing remote access (e.g., access from a user's home). However, in a stand-alone client configuration, browser 301 is not coupled to an Intranet. Servers 303A-303D may be servers of different Internet Service Providers (ISPs), which are connected to browser 301 via different connection media. Thus, browser 301 is connected to server 303A via a DSL connection 305, to server 303B via a wireless phone connection 307, to server 303C via a satellite connection 311 and to server 303D via a cable modem connection 309. ISP servers 303A-303D connect to the Internet (not shown) via ISP-Internet connectors 215.

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*Please replace the paragraph beginning on page 19, line 3 with the following:*

Selection of automatic routing 513 enables the browser to access a stored connectivity table, illustrated in Figure 6A, which stores specific routing information by which the optimal route for a particular connection is determined. In the preferred embodiment, selection of a best performing network route involves utilizing the connectivity table 600. The connectivity table 600 is utilized to track and store a history of network and routing parameters 601, which indicate the efficiency of a particular server or route using efficiency values ranging from, for example, 1-5. The network parameters are generated by first encoding software call-backs into the connection protocol stack and creating within the connection utility a routing function, by which these software call-backs may transmit network routing information back to the client. The functionality and utilization of software call-backs in network applications is described in detail in United States Patent Application Serial No. [[\_\_\_\_\_]] 09/584,067 (Docket No. AUS000122US1) entitled "Extending Functionality of Network I/O APIs by Using Call-Back Mechanisms," which is filed concurrently herewith and hereby incorporated by reference. Initial parameter values may be set by default or by a user; However, all subsequent values are set utilizing the call-back functionality. The parameter values may be updated during each connection request or at some pre-determined period, for example, every 6 hours.

*Please replace the paragraph beginning on page 21, line 7 with the following:*

Figure 6A provides a specific 2 domain embodiment. A domain is an IP address usually associated with a server on the Internet. In Figure 6A, for example, ibmgame.com domain represents a server, which hosts an ~~interactive~~ interactive game that is accessed by the client browser (i.e., the user of the client browser). The server for ibmgame.com domain is accessed from the client via a particular route and the associated metrics of that route are stored within the connectivity table 600. The columns illustrate three pairs of connection parameter values. A relative rating 605 of the pairs utilized in the determination of the optimal route.

*Please replace the paragraph beginning on page 29, line 10 with the following:*

In a related embodiment, a session may be automatically re-routed to the second route only during later connection requests (i.e., the browser default is updated to select the second route). Alternatively, a “switch connection” button can be included in client browser for switching between connection states during a session. Or, in yet another embodiment, illustrated in **Figure 5B**, a pop-up window 551 is initiated with a current condition message 555 whenever connection utility finds a connection route which is more optimal than the present route. The user may then elect to connect via the more optimal route by selecting a “switch” button 553 within the pop-up window.

*Please replace the paragraph beginning on page 29, line 21 with the following:*

Figure 11 illustrates a network environment in which a client session is re-routed. The network environment includes a mobile client browser 1101, such as a browser on a laptop, hand-held personal computer or mobile telephone, which is connected to the network via a wireless connection. Client browser (or network application) 1101 has TCP/IP stack extensions [[1003]] 1103, which determine the route for connecting the client during a session. A session, comprising network packets, may initially be routed to the Internet [[1007]] 1107 via a wireless LAN 1109 (e.g., bluetooth), which allows wireless transmissions for significant distances. When the client moves out of range of the wireless LAN 1109, the session is dynamically switched over to a cell phone and modem connection 1105. Dynamic switching allows the session to be continued without any significant delay or loss in session information.